

What is claimed is:

1. A composite material containing molybdenum particulate and an oxygen free copper matrix.
2. A composite material according to claim 1, wherein said molybdenum particulate is present in an amount of approximately 35 - 65 vol% and the oxygen free copper matrix is present as the balance.
3. A composite material according to claim 2, further comprising said composite material having an average particle diameter of 2.31 microns, a mean free path of 1.99 microns, and a mean center to center particle spacing of 4.61 microns.
4. A method of forming a molybdenum - copper composite material comprising the steps of:

forming a mixture of molybdenum, phenolic, and wax;

forming said mixture into a green form using at least one of a selective laser sintering technique and a cold pressing technique;

placing the green form and an oxygen free copper into a
furnace; and

subjecting said green form and said oxygen free copper to a
furnace cycle to form said composite material.

5. A method according to claim 4, wherein said furnace cycle
subjecting step comprises heating the green form and the oxygen
free copper from room temperature to a first temperature 600
degrees Centigrade over a time period of 3 hours, holding the
green form and the oxygen free copper at the first temperature
for 1 hour, heating the green form and the oxygen free copper to
a second temperature of 1150 degrees Centigrade over a time
period of 2.3 hours, holding the green form and the oxygen free
copper at the second temperature for 0.5 hours, and reducing the
temperature in the furnace from said second temperature to room
temperature in 3 hours.

6. A method according to claim 4, wherein said mixture forming
step comprises mixing molybdenum, phenolic, and wax, all in
particulate form having a particle size of between 10 and 145
microns, with an average particle size of 20 to 45 microns.

7. A method according to claim 4, wherein said mixture forming step comprises forming a mixture having 3.0 wt% phenolic, 2.5 wt% wax, and the balance molybdenum.

8. A method according to claim 4, wherein said green form and oxygen free copper placing step comprises placing said mixture in green form on an aluminum oxide plate located in a graphite crucible and placing said oxygen free copper material on top of tabs adjacent to said green form.

9. A method according to claim 8, wherein said oxygen free copper placing step comprises placing an amount of oxygen free copper on said tabs equal to $0.72 \times$ green weight.

10. A method according to claim 9, further comprising placing aluminum oxide in particulate form over said green form and said oxygen free copper.